Sir P. Pett Journal

See Evelyn's Diary vol. 1. pp. 407. 552.

Sir C. Wren, [illegible] to do with this affair

see Evelyn, ut supra, p. 436.

Doe the
addresse to Sr Samuell Morland

A Memorial
Concerning ye Mill and ENGIN at WINDSOR

When Your MAIESTY gaue Order to ye Surveigh.r to Wharf ye Mill &c at Windsor, I thought it my duty, (fearing hee might not bee versed in those matters) with all modesty, to advise him,

First, to cause a convenient Number of Piles of 15 or 16 Foot in length, to bee driven 5 or 6 foot deep into ye ground, on both sides of ye Mill-pool.

This don, to joyn planks together, and to let them down by ye Piles, to ye bottom, bec: those planks could not bee spiked to ye Piles so deep under water.

Afterwards, to fill ye Mill Pool with Chalkstones to a convenient height, wch would haue prest the Planks to ye Piles.

Lastly, to make a low Wall of large Chalkstones, or other stones, squared, of about 2 foot high from ye bottom of ye piles, next ye Bank, & then to fill all up to ye top with clay & loose earth well rammd wch would haue preserued ye Mill for 20 years together. But

But S^r Christopher, following his own fancy, & refusing to hearken to y^e earnest entreatyes of both Col: Ewbank & y^e workman, who had heard what I advised, wharfed onely one side of y^e Mill pool, But with y^e following inconveniencyes, & loss to your MAIESTY.

For

1. Hee employed as much Timber, and consequently payd as much for y^e workmanship of one side, as would (had y^e work been skilfully design^d) have serued for one side, and half of y^e other, & better.

2. Not filling y^e Pool w^th Chalkstones, nor making y^e least Provision at y^e bottom, either on y^e one side, or other of y^e Piles &c, as is before mentioned to haue been advised, The force of Water from y^e Corn Mill has so worn away y^e Bank, that some of y^e Piles, that were at y^e first 6 foot deep in y^e ground, are now hardly two foot deep, & in a short time will bee quite loose; And there is already — carryed away of y^e Bank so much gravel & earth, about 10 yards lower, that it has made a Bank or hill, that when y^e water of y^e main River is lower, it will quite stopp y^e Engin & Mill from working, till remoued.

3 The two Mill-pool-Banks, which y^r MAIESTY intended, should haue been preserued and Fortifyed by his Wharfing, are by it made weaker, and in twice as much dainger as before. And sure I am, had I at first contriued any part of y^e Mill no better, y^e whole had been carryed down y^e Stream with y^e next Floud.

Besides all this, S^r Christopher hay hearkned to y^e importunitys of y^e plummer (or rather joyned with him) to bury y^e Pipes as before, w^ch I with so much cost & trouble gott uncovered y^e last year. Which hay so much animated S^r Rich: May's Tenant, That hee has now plough^d his ground ouer the pipes, and hee playnly told mee when I was at Windsor about 3 weeks since, That hee would sue mee or any man who should for y^e future, come upon his Ground to meddle with y^e Pipes &c without first giuing him full Satisfaction, & so for y^e Island.

Why y^e Plummer so much desires to haue y^e pipes buried, y^r MAIESTY well knows. And as for y^e Surveigh, hee hay been pleased from y^e beginning to call the Engin by y^e name of S^r Sam: Morland's Bawble, w^ch as I suppose, was because I did not hearken to, & admire his Fancyes, One to Erect a Windmill upon Winchest^r Tower and from y^e River make a great vault which

should haue been carryed through the Castle Hill, & then sunk a well perpendicularly from y^e Tower into y^e Vault, and with my Engin forced up y^e Water in a great Wind, & in a Calm, Hi^s late Maj^ty must haue gott Water where Hee could haue found it.

Another of hi^s Projects, was, to haue made y^e Corn Mille, & Engin work without a Water-wheel, by y^e help of a long Boat, w^ch being filld successiuely w^th y^e stream, should in y^e nature of a Mousetrap, suddainly Raise & y^e discharge of water, wrought y^e both Mille & Engin, But how, or how long that Work must haue lasted, let y^e learned judg!

The Remedyes to all the aforesd Miscarriages, And That your MAJESTYES Castle of Windsor may bee well serued w^th Water

I most humbly propose as follow,

1. That a Lease may bee made to mee, by y^e Maj^r & Aldermen of Windsor, as was agreed on by Hi^s late MAJESTY, onely I desire a Clause to bee inserted to oblige mee to surrender the Lease at any time during y^e Terme, at y^e MAJESTYES pleasure, it being not fit for mee or any man, to haue that Mille, or care of the Engin, otherwise then during y^e MAJESTYES pleasure.

2. Whereas Col: Ewbank has hitherto enjoyed y^e profitts of y^e Corn-Mill, to his own privat use, and run in debt to seuerall workmen about y^e Mill & Engin in my absence, who ought to bee payd, & also y^e poors duty. That for y^e future the Profitts of y^e Mille bee employed to pay off y^e s^d workmen & poors duty, & till fully discharged & payd off, Now these profitts of y^e Mill, considering that it is but half a Mill, & must bee subservient to y^e Engin, one part of y^e year, will not amount to aboue 12 or 14 £ p^r An. And after these debts & duties are discharged, y^e Profitts may go as some part of y^e Allowance for keeping & repayring y^e Mill & Engin.

3. That S^r Richard May & hi^s Tenant Do vpon y^e same terms as aforesd, make mee a Lease of y^e Island, and of a conveient Slip of ground about y^e Mille to load & unload Timber, Corn &c. As likewise a Lease of a Slip of Ground, of about 20 foot wide from y^e Mill to y^e Common where y^e pipe is layd. And y^e Annual Rents of all these things (which

(which will bee but a small sum) may bee
payd half yearly by ye Receiuer of ye
profitts of ye Honor of Windsor, as ye Rent
of ye Mill has been euer since, payd to ye
Majr & Aldermen.

This being settled, it will bee very
necessary to finish ye Wharfing, and Cassway
for ye pipe with all possible speed. The Charge
of all which, as near as I can guess, will bee
as follows, or near ye matter.

1. The Surveigh[r] had 19 Load of Timber
as I understand, & payd 24[t]. for ye Workmanship
of wharfing onely one side below ye Mill,
But ye other side has as much need as that,
& ye 2 sides above ye Mill want, though
in a less proportion; I suppose 25 Load
of Timber, & 30[t] in Money may finish it.

2. The Surveigh[r] I suppose payd for filling
in ye Trench where ye Pipe is layd, but
for euery pound hee gaue to throw in, it
will cost three p[d] to throw out ye same earth,
and that pound is also lost. And if your
MAJESTY allow Souldiers at 12 pence
p[r] diem, & a Serj[t]. for euery 20 Souldiers at
2 shill: p[r] diem[#]. The Cassway may bee
made in 3 weeks time (or a Month at
ye longest) and

with their Tools out of ye Castle Store.

Two or 3 Bridges where ye Cassway shall
cross ye Highways, and a sufficient Coat
of Gravell just ouer ye Pipe, and ouer ye
pipe loose earth & Turff, and on each side
of ye Cassway a Ditch or Trench, & on each
side of either Trench a pathway, where
ye Officer may walk & visit ye pipe all
along from ye Mill to ye Castle Hill, as there
shall bee occasion. And all for about
One Hundred & seventy p[ds] or 180[t] alw[s]
mo[re].

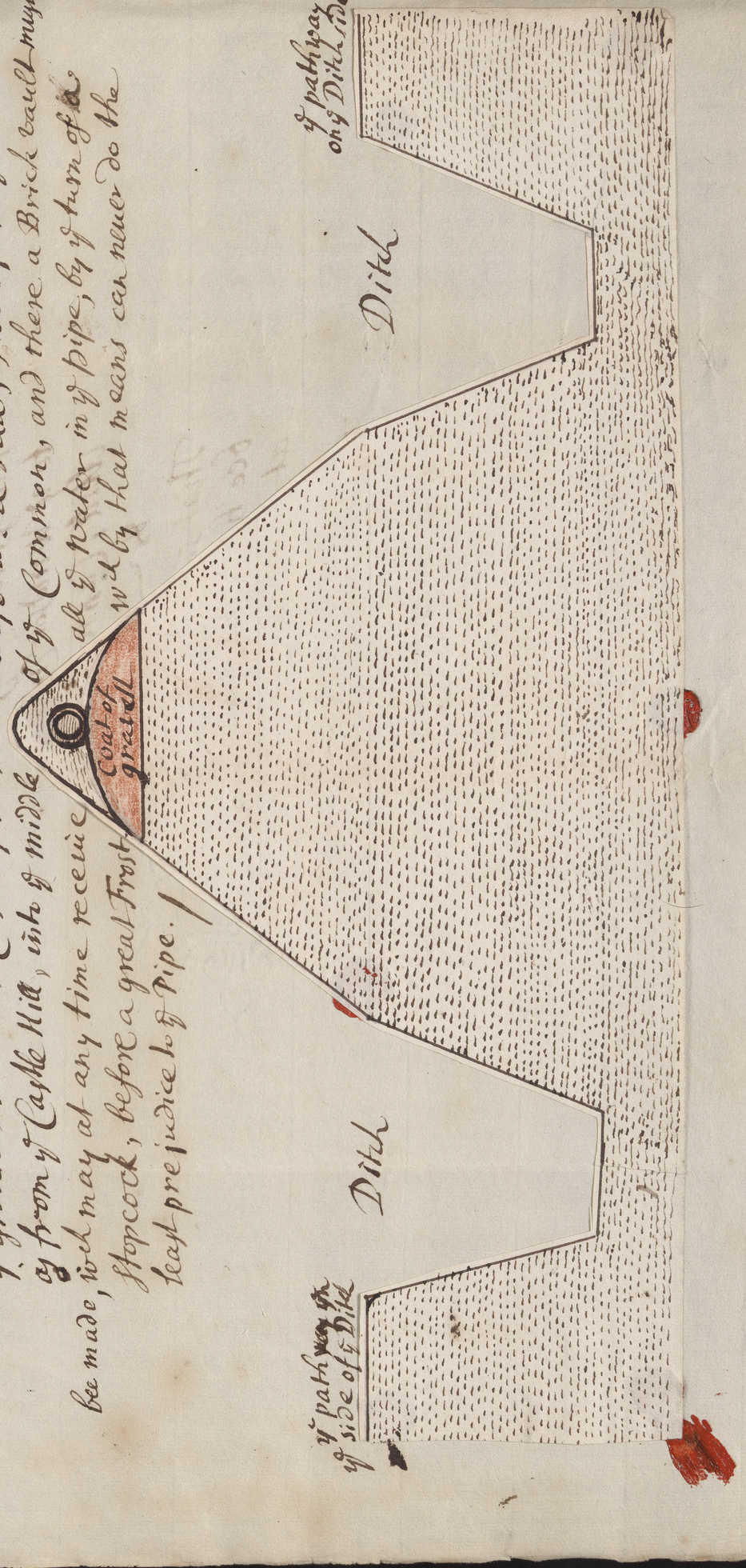
3. There has been worn away of ye two Banks
(I fear) since ye Surveigh of wharfing, neer
150 Load of gravel & earth which now lyes
as a Bank; and before, there was seuerale
Loads, wch must necessarily bee wrought out
with all speed; & I fear will cost above 20 pd.
& Besides ye Carpenters work
in wharfing, there must bee at least 4 or
5 Lyers of Chalkstones, and a walk of large
Chalkstones, w[th] great trouble lett down on
either side below ye Mill, between ye Pile
and ye Banks, of at least 4 or 5 foot high
from ye bottom. The Lyers will cost 4 pound
a peice, and ye 2 walls at ye least 5 pounds
and ye Clay & filling in will cost 5 p[ds] more.

Now forasmuch as all these things
are in my judgment absolutely necessary,
and ought to bee don w[th] all speed; Although

Although I had much rather bee onely the
Director onely of ye work, & no undertaker
Yet Forasmuch as
such things as relate to Mills, Wharfing &c
are not sufficiently known to ye Surveigr or your
Castle-officers (For if ye Surveigr had 60£
for this last work, your MAIESTY
had better haue giuen him 40£ to haue don
nothing) Besides that their Methods
& manner of working is dilatory & slow.
& they may bee a year, about what I shall do in a Month,
Though I lost near 20£ by my undertaking
last Sommer for 200£. wch My L. Treas.
made mee promise neuer to ask, and that in
Majties presence. And if I undertake
this work, I do not know but that I may
bee a looser by twice 20£. Yet out of a
great desire to see that work perfected
to yr MAIESTYES Satisfaction,
For 26 Loads of good Oak Timber
such as ye Surveigrs had, lays upon ye
place. And 250li paid without Fees #. I
will adventure to undertake all these
works aforesd, & to finish them a week
after Easter. Yr Mats giuing effectual
Order to ye Officers to furnish mee with
as many Souldiers as I shall from time to time want,
with Shouels spades & Mathooks out of ye
Castle-stores, & paying them 12d a day to
each Souldier, & to a Serjant for each
20. Souldiers to keep them in order, & to bee
answerable for their tools, &c, 2 shillings
p diem

at or before ye 10th of March next.

This Profil will shew in what manner ye Causway must bee made,
Though it must alter in height & breadth according to ye situation of
ye ground, For this Causway must be layd wth a Fall, as well from ye Mill
as from ye Castle Hill, wth ye middle
of ye Common, and there a Brick vault must
be made, wch may at any time receive
Stopcock, before a great Frost
least prejudice to ye Pipe.



A particular
Accompt of all
things relating
to ye Windsor Engin,
Mill, Causway
&
That so nothing
bee hereafter layd
at my Door.

Given into His
MAJESTY's own
hands 2 Mar: 1685

No 17

Test. Sec.

AUTOGRAPHE

de

Morland

Sir Samuel

OBSERVA

Manuskript a.s. 9 pp. folio, 2. III. 1685

Betreffend die Mühle und Maschine zu Windsor. Im Jahre 1675 richtete er eine Pumpe zu Windsor ein, Wasserversorgung ein mit der von ihm erfundenen Plungerpumpe. Das Manuskript betrifft diese Station und die Mühle insbesondere. Unterschr.

M O R L A N D Sir Samuel, geb. etwa 1625 Sulhamstead, Berkshire, gest. 3o. Dez. o. Jan. 1695-96 Hammersmith bei London. Unter Cromwell's Regierung Assistent d. Staatssekretärs Thurloe, später aussero. Gesandter d. Protectors a. sardin. Hofe z. Gunsten d. unterdr. Waldenser. Von Karl II. z. Baron erhoben u. z. "Master of mechanics/Wasserbaudir.?/ernannt Description of the Tuba Stentorophonica or speaking trumpet, an instr. of excellent use, as well at sea at as land, invented and variously experimented 1670. The count of Pagans method of delineating all manner of fortifications from the exterior polygon, reduced to english measure and converted into hercotectonick lines 1672. A new and most useful instr. for addtion and subtraction etc. with a perpetual Almanack, 1672. Elevation des eaux par toute sorte de machines, reduite a la mesure, au peids, a la balance, par le moyen d'un nouveau piston et corps de pompe et d'un nouveau mouvement cyclo-elliptique etc. Paris 1685/Darin s. Ansprüche e. richt. auf d. Erfindung o. richt. Verbesserung d. Dampfmaschine/Erfand auch das schiefliegende Barometer, doch nicht zuerst.

MORLAND (SIR SAMUEL, 1625-1695). Diplomatist, Mathematician and Inventor. Suggested the use of Steam Ships.

AUTOGRAPH MEMORIAL CONCERNING "YE MILL AND ENGINE AT WINDSOR."

9 pp., folio. 2nd March, 1685.

A long and most interesting document relating to his water engine and mill at Windsor Castle and the experiments made therewith. Mentioning Sir Christopher Wren and others. The last page bears an elaborate diagram.

Sir Samuel Morland has indorsed the document

"A particular Accompt of all things relating to ye Windsor Engin, Mill, Cassway, &c.; that so nothing bee hereafter layd at my door. Given into his Majesty's own hands."

He previously, in 1675, by the invention of a plunger pump raised water to the top of Windsor Castle.